

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Canceled)
2. (Canceled)
3. (Previously Canceled)
4. (Currently Amended) The non-volatile semiconductor memory according to claim 19, and further comprising an electric charge accumulating portion in an insulating layer having a trap level therein, said insulating layer being provided between said channel region and said control gate;
wherein an erasing operation involves neutralization of electrons held by the trap level by injecting holes generated in the vicinity of said drain region.
5. (Previously Canceled)
6. (Currently Amended) The non-volatile semiconductor memory according to claim 20, wherein said side wall comprises a first side wall and a second side wall formed on the first side wall, and wherein an end of said drain region is formed in self-alignment with said first sidewall and said source region is formed in self-alignment with said second side wall and an end of said first sidewall, and an end of said source region and an end of said second side wall are in predetermined positional relations.

19. (Previously Presented) A non-volatile semiconductor memory comprising:

- a semiconductor substrate;
- a source region provided in said semiconductor substrate;
- a drain region provided in said semiconductor substrate, said source and drain regions being spaced away from each other;
- a floating gate provided above a channel region between said source and drain regions; and
- a control gate provided above said channel region;

wherein a writing operation is executed in such a way that hot electrons are generated in the vicinity of said drain region and injected into said floating gate, and an erasing operation is performed by releasing the electrons held by said floating gate into said channel region;

wherein an overlap of said drain region with said floating gate is larger than an overlap of said source region with said floating gate;

wherein said floating gate is provided between said channel region and said control gate through respective insulating layers; and

wherein a junction depth of said source region is larger than a junction depth of said drain region.

20. (Currently Amended) The non-volatile semiconductor memory according to claim 19, wherein at least said source region has an end having a predetermined positional relation ~~is provided by introducing an impurity in self-alignment with an end~~ of a side wall provided on a side surface of said control gate.

21. (Previously Presented) A non-volatile semiconductor memory comprising:

a semiconductor substrate;
a source region provided in said semiconductor substrate; and
a drain region provided in said semiconductor substrate, said source and drain regions being spaced away from each other;

wherein a charge accumulation portion is an insulating layer having a trap level therein and said insulating layer is provided between said channel region and control gate and said control gate is provided above said channel region;

wherein a writing operation is executed in such a way that hot electrons are generated in the vicinity of said drain region and injected into said charge accumulation region and the erasing operation involves neutralization of the electrons held by the trap level by injecting holes generated at in the vicinity of said drain region;

wherein an overlap of said drain region with said electric charge accumulating portion is set larger than an overlap of said source region with said electric charge accumulating portion; and

wherein a junction depth of said source region is larger than a junction depth of said drain region.

22. (Currently Amended) The non-volatile semiconductor memory according to claim 21, wherein at least said source region has an end having a predetermined positional relation ~~is provided by introducing an impurity in self-alignment~~ with an end of a side wall provided on a side surface of said control gate.

23. (Canceled)

Appl. No. 09/451,619
Amdt. Dated February 6, 2004
Reply to Office Action of August 6, 2003

Attorney Docket No. 81788.0025
Customer No.: 26021

24. (Currently Amended) The non-volatile semiconductor according to claim 22, wherein said side wall comprises a first side wall and a second side wall formed on the first side wall, and wherein and end of said drain region is formed in self-alignment with said first sidewall and said source region is formed in self-alignment with said second side wall and an end of said first sidewall and an end of said source region and an end of said second side wall have predetermined positional relations.